

3.7.5 Typical Mercantile & Service (Retail) Building (1)

	Retail (<u>>= 25,000 SF</u>)	Retail (<u><25,000 SF</u>)
Stock Floor Area (billion SF)	5.88	6.53
Floor-Area Weighted Averages		
Building Area (thousand SF)	80	5.3 - 6.4
Floors	2	1
Shell		
Percent Glass	15	15
Window R-Value	1.39 - 1.71	1.24 - 1.71
Window Shading Coefficient	0.74 - 0.79	0.85
Wall R-Value	3.1 - 6.4	2.5 - 6.6
Roof R-Value	10.6 - 14.0	9.5 - 13.2
Wall Material	masonry	masonry
Roof Material	built-up	built-up
Occupancy		
Average Occupancy (SF/person)	390 - 460	1,635 - 2,085
Weekday Hours (hrs/day)	12	12
Weekend Hours (hrs/day)	5	4
Equipment		
Average Power Density (W/SF)	0.40	0.50
Full Equipment Hours (hrs/year)	4,750 - 5,850	3,480
Lighting		
Average Power Density (W/SF)	1.6 - 2.1	1.7 - 2.2
Full Lighting Hours (hrs/year)	4,500 - 5,245	3,786 - 4,412
System and Plant		
System and Distribution Type	Constant Volume w/ Reheat VAV w/ Economizer	Packaged Single-Zone Packaged Single-Zone w/ Economizer
Heating Plant	Gas Boiler	Gas Furnace
Cooling Plant	Hermetic Centrifugal Chiller	Direct Expansion
Service Hot Water	Gas Boiler	Gas Water Heater

Note(s): 1) The prototypes are synthetic buildings compiled from statistical data from building surveys or conclusions from previous studies. The physical characteristics, system characteristics, and usage patterns are based upon various surveys, studies, engineering estimates, or engineering judgment.

Source(s): LBNL, Commercial Heating and Cooling Loads Component Analysis, June 1998, Table 11, p. 32.